



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF MANAGEMENT AND BUDGET
STATE PLANNING COORDINATION

October 19, 2006

Mr. Joseph Joachimowski
Davis, Bowen & Friedel
23 N. Walnut Street
Milford, DE 19963

RE: PLUS review – PLUS 2006-09-08; Watson Property

Dear Mr. Joachimowski:

Thank you for meeting with State agency planners on September 27, 2006 to discuss the proposed plans for Watson Property project to be located on the southeast corner of Fleatown Road and Clendaniel Road.

According to the information received, you are seeking site plan approval through Sussex County for 53 units on 64 acres.

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as Sussex is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.

This proposal is located in Investment Level 4 according to the *Strategies for State Policies and Spending*, and is in the low density area according to the Sussex County Comprehensive Plan. **The comments in this letter are technical, and are not intended to suggest that the State supports this development proposal. This letter does not in any way suggest or imply that you may receive or may be entitled to permits or**

other approvals necessary to construct the development you indicate or any subdivision thereof on these lands.

The following are a complete list of comments received by State agencies:

Office of State Planning Coordination – Contact: Bryan Hall 739-3090

This project represents a major land development that will result in 53 residential units in an Investment Level 4 area according to the *2004 Strategies for State Policies and Spending*. This project is also located in the Low Density area according to the Sussex County Comprehensive plan. Investment Level 4 indicates where State investments will support agricultural preservation, natural resource protection, and the continuation of the rural nature of these areas. New development activities and suburban development are not supported in Investment Level 4 areas. These areas are comprised of prime agricultural lands and environmentally sensitive wetlands and wildlife habitats, which should be, and in many cases have been preserved.

From a fiscal responsibility perspective, development of this site is likewise inappropriate. The cost of providing services to development in rural areas is an inefficient and wasteful use of the State's fiscal resources. The project as proposed is likely to bring more than 130 new residents to an area where the State has no plans to invest in infrastructure upgrades or additional services. These residents will need access to such services and infrastructure as schools, police, and transportation. To provide some examples, the State government funds 100% of road maintenance and drainage improvements for the transportation system, 100% of school transportation and paratransit services, up to 80% of school construction costs, and about 90% of the cost of police protection in the unincorporated portion of Sussex County where this development is proposed. Over the longer term, the unseen negative ramifications of this development will become even more evident as the community matures and the cost of maintaining infrastructure and providing services increases.

Because the development is inconsistent with the *Strategies for State Policies and Spending*, the State is opposed to this proposed subdivision.

Division of Historical and Cultural Affairs – Contact: Alice Guerrant 739-5685

The Division of Historical and Cultural Affairs is not in favor of this development in Level 4, which will further damage the historic agricultural landscape in this area, and lead to the destruction of historic buildings and sites. This parcel includes a historic agricultural complex (S-3926), in the location where Beers Atlas of 1868 shows the J. Lofland House. There are areas of high probability for prehistoric-period archaeological

sites. There are also a number of historic properties within view of this parcel on Clendaniel Rd.

Small, rural, family cemeteries often are found in relation to historic farm complexes, such as the Lofland House, usually a good distance behind or to the side of the house. The developer should be aware of Delaware's Unmarked Human Remains Act of 1987, which governs the discovery and disposition of such remains. The unexpected discovery of unmarked human remains during construction can result in significant delays while the process is carried out, and the developer may want to hire an archaeological consultant to check for the possibility of a cemetery here. The DHCA would have to have a copy of any archaeological report done for this purpose. They will be happy to discuss these issues with the developer; the contact person for this program is Faye Stocum, 302-736-7400.

If this development does go forward, the DHCA would like the opportunity to document the historic buildings on the parcel prior to any demolition activities. They would also like to examine the area for archaeological sites, to learn something about their location, nature, and extent prior to any ground-disturbing activities. They also request that adequate landscaping be included around the front and west sides of the parcel to block the view of this development from the nearby historic properties.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

Rita Lynn, LLC seeks to develop 53 single-family detached houses on a 64.199-acre parcel (Tax Parcel 2-30-13.00-136.00). The land is located on the southeast corner of Fleatown Road (Sussex Road 224) and Clendaniel Pond Road (Sussex Road 38). The land is zoned AR-1 and would be developed by right.

Because the development is proposed for a Level 4 Area, it is inconsistent with the *Strategies for State Policies and Spending*. As part of our commitment to support the *Strategies*, DelDOT refrains from participating in the cost of any road improvements needed to support this development and is opposed to any road improvements that will substantially increase the transportation system capacity in this area. DelDOT will only support taking the steps necessary to preserve the existing transportation infrastructure and make whatever safety and drainage related improvements are deemed appropriate and necessary. The intent is to preserve the open space, agricultural lands, natural habitats and forestlands that are typically found in Level 4 Areas while avoiding the creation of isolated development areas that cannot be served effectively or efficiently by public transportation, emergency responders, and other public services.

DelDOT strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in approved Comprehensive Plans. We encourage the use of transfer of development rights where this growth management tool is available.

If this development proposal is approved, notwithstanding inconsistencies with the relevant plans and policies, DelDOT will provide technical review and comments.

The Department of Natural Resources and Environmental Control – Contact: Kevin Coyle 739-9071

Investment Level 4 Policy Statement

This project is proposed for an Investment Level 4 area as defined by the *Strategies for State Policies and Spending* and is also located outside of a designated growth area in the relevant municipal and county certified comprehensive plans. According to the *Strategies* this project is inappropriate in this location. In Investment Level 4 areas, the State's investments and policies, from DNREC's perspective, should retain the rural landscape and preserve open spaces and farmlands. Open space investments should emphasize the protection of critical natural habitat and wildlife to support a diversity of species, and the protection of present and future water supplies. Open space investments should also provide for recreational activities, while helping to define growth areas. Additional state investments in water and wastewater systems should be limited to existing or imminent public health, safety or environmental risks only, with little provision for additional capacity to accommodate further development.

With continued development in Investment Level 4 areas, the State will have a difficult, if not impossible, time attaining water quality (e.g., TMDLs) and air quality (e.g., non-attainment areas for ozone and fine particulates) goals. Present and future investments in green infrastructure, as defined in Governor Minner's Executive Order No. 61, will be threatened. DNREC strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in certified Comprehensive Plans. We encourage the use of transfer of development rights where this growth management tool is available.

This particular development certainly compromises the integrity of the State Strategies and the preservation goals inherent in many of DNREC's programs. Of particular concern are the potential impacts to two out of three layers of green infrastructure (forest and cropland), loss fragmentation of forest (6 out of 17 acres, or 35%), increase in impervious cover, project's location in an excellent recharge area, 53 individual on-site septic systems, and the project's location near a State Resource Area/Cedar Creek

Natural Area. While mitigating measures such as conservation design, central wastewater systems instead of individual on-site septic systems, and other best management practices may help mitigate impacts from this project, not doing the project at all is the best avenue for avoiding negative impacts. As such, this project will receive no financial, technical or other support of any kind from DNREC. Any required permits or other authorizations for this project shall be considered in light of the project's conflict with our State growth strategies.

Soils

According to the Kent County soil survey, Evesboro, Rumford, and Johnston were mapped in the immediate vicinity of the proposed construction. Evesboro is an excessively well-drained soil that has moderate limitations on account of its rapid permeability. Rumford is a well-drained upland soil that has few limitations for development. Johnston is a very poorly-drained wetland associated (hydric) floodplain soil that has the highest severity level for development.

Wetlands

Based on Statewide Wetland Mapping (SWMP), palustrine forested riparian wetlands were mapped along the entire southeastern boundary of subject parcel. These riparian wetlands also contain Atlantic white cedar which is a "unique and significant" wetland type that is typically associated with a number of rare, endangered, or threatened species. This wetland type has high priority for conservation. Wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. **The developer should maintain a 100-foot vegetated buffer from the wetlands. There should not be any buildings or associated infrastructure within the buffer.**

PLUS application materials indicate that wetlands have been delineated (presumably a field delineation). This delineation should be verified by the Army Corps of Engineers through the Jurisdictional Determination process. Please note that impacts to palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. In situations where the applicant believes that the delineated wetlands on their parcel are nonjurisdictional isolated wetlands, the Corps must be contacted to make the final jurisdictional assessment. They can be reached by phone at 736-9763.

In addition, individual 404 permits and certain Nationwide Permits from the Army Corps of Engineers also require 401 Water Quality Certification from the DNREC Wetland and Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the DNREC Division of Soil and Water Conservation, Delaware Coastal Programs Section. Each of these certifications represents a separate permitting process.

To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting. These meetings are held monthly and are attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at (302) 739-9943 to schedule a meeting.

It should also be noted that this parcel contains a sensitive headwater riparian wetlands associated with a headwater stream which ultimately discharge into Cedar Creek. Headwater streams are important for the protection of water quality and the maintenance/integrity of the ecological functions throughout the length of the stream, including the floodplain system and/or water bodies downstream. Moreover, the riparian wetlands bordering this parcel are particularly sensitive because of the presence of the Atlantic white cedar wetland type. The Atlantic white cedar wetland plant community type is considered a high-value “unique and significant” wetland resource that often contains an assemblage of rare and endangered plant species sensitive highly sensitive to impacts from development. Based on research work by Castelle et al. (1994), a buffer width of at least 300 feet is necessary for protecting high species diversity in “high-value” wetland habitats. **In light of this research and of the necessity for protective efforts to preserve water and habitat quality, a 300-foot upland buffer is the recommended minimum buffer width from the Atlantic white cedar wetland plant community type. It is further recommended that the State’s Natural Heritage Program be allowed to locate and inventory the existing plant communities, so as to ensure that the appropriate buffering distances are maintained. An upland buffer of at least 100 feet is recommended from all other wetlands and water bodies.**

Wetland Buffers

The application notes that there is a 100-foot forested stream buffer; however, associated wetlands are encroached upon by lots and infrastructure. Buffers of less than 100 feet are inadequate for the protection of water quality especially when there are rare species present which are sensitive to water quality changes. DNREC offers the following recommendations:

- 1) Lot #'s 16-25 should either be omitted from the site plan or relocated so that they are outside of wetland boundaries and there is at least a 100-foot buffer between the lots and the wetland.**
- 2) There is a stormwater management pond that will result in both tree clearing and wetland destruction. We recommend that this pond be relocated or an alternate method of stormwater control be utilized. It does not make sense to destroy wetlands and trees, both of which function to reduce flooding, to create a pond with the same purpose.**

Impervious Cover

Based on a review of the PLUS application, post-development surface imperviousness is estimated to be about 30 percent. It is not clear from the information submitted whether this is a reasonable estimate or not. However the applicant should recognize that all forms of constructed surface imperviousness (i.e., rooftops, sidewalks and roads) should be accounted for when calculating surface imperviousness, otherwise an inaccurate assessment of this project's environmental impacts is inevitable. This figure should be recalculated if any form of surface imperviousness was excluded.

Since studies link increases in impervious cover to decreases in water quality, the applicant is strongly encouraged to pursue best management practices (BMPs) that can mitigate or reduce some of the most likely adverse impacts. Reducing the amount of surface imperviousness through the use of pervious paving materials ("pervious pavers") in lieu of asphalt or concrete in conjunction with an increase in forest cover preservation or additional tree plantings are some examples of practical BMPs that could easily be implemented to reduce surface imperviousness.

TMDLs

A Total Maximum Daily Load (TMDL) is the maximum level of pollution for which a water quality limited water body can assimilate without compromising use and recreational goals such as swimming, fishing, drinking water, and shell fish harvesting. Compliance with TMDL nutrient loading reduction requirements will ultimately be assessed via nutrient budget protocol, a computer-based model that quantifies post-development nutrient loading under a variety of land use scenarios in combination with a variety (or absence) of BMP types and intensities. This post-development loading rate is then compared with the pre-development loading rate as a means to assess whether the project meets the acceptable TMDL reduction levels. Although TMDLs have not yet been finalized for the Cedar Creek watershed to date, the applicant should be made aware that they will be available in the near future (before December 2006), and may be applicable to this project. It is strongly advised, therefore, that the applicant be proactive and employ best management practices (BMPs) and Best Available Technologies (BATs) as methodological mitigative strategies to reduce the likely degradative impacts associated with this development. Examples of BMPs or BATs that should be used to significantly reduce nutrient loading from this project include practices that prevent or mitigate or minimize created surface imperviousness, preservation/enhancement of forest cover, maintenance of recommended wetland buffer widths (100 feet or greater), and use of innovative "green-technology" stormwater methodologies rather than conventional open-water stormwater management structures. We suggest that the applicant periodically contact the Watershed Assessment office regarding the status of the nutrient

budget protocol and obtain it as soon as possible. When it becomes available, we suggest that the applicant then verify their project's compliance with the specified TMDL loading rates by running the model themselves, or contacting the Watershed Assessment office if assistance is needed. The contact person for obtaining the protocol is Lyle Jones at 739-9939.

Water Resource Protection Areas

The DNREC Water Supply Section has determined that a significant portion of the proposed development falls within an excellent ground-water recharge area (see following map and attached map). The review found no wellhead protection areas.

Excellent recharge areas are near-surface areas within which precipitation infiltrates the land surface to the unconfined aquifer at a more rapid rate than other areas. This proposed development shows storm-water management ponds within the excellent ground-water recharge area.

The construction phase of this type of pond requires excavation, hauling, and grading. The heavy equipment used in this phase has the capacity to compact and degrade the structure of the strata that defines the area as an excellent ground water recharge area. Changes to the structural soil properties may cause significant reduction in recharge capacity. Installing storm-water management ponds in excellent ground-water recharge areas has the potential to contaminate the ground water beneath it and infiltrate into the aquifer.

The proposed development would change the total impervious cover from 0% to approximately 30%. These numbers are based on the total area and are not specific to the excellent recharge area. The developer provided the numbers on the PLUS application.

The Water Supply Section recommends that that portion of the new development within the excellent ground-water recharge area not exceed 20% impervious cover. The purpose of an impervious cover threshold is to minimize loss of recharge (and associated increases in storm water) and protect the quality and quantity of ground water and surface water supplies.

Further, some allowance for augmenting ground-water recharge should be considered if the impervious cover exceeds 20% but is less than 50% of that portion of the parcel within these areas, provided the applicant submits an environmental assessment recommending a climatic water budget and facilities to augment recharge. The environmental assessment must document that post-development recharge will be no less than predevelopment recharge when computed on an annual basis. Commonly, the

applicant offsets the loss of recharge due to impervious cover by constructing recharge basins that convey relatively pure rooftop runoff for infiltration to ground water.

For more information:

Source Water Protection Guidance Manual for the Local Governments of Delaware

http://www.wr.udel.edu/publications/SWAPP/swapp_manual_final/swapp_guidance_manual_final.pdf

Ground-Water Recharge Design Methodology

http://www.wr.udel.edu/publications/SWAPP/swapp_manual_final/swapp_guidance_manual_supp_1_final.pdf

Climatic Water Budget

Thornthwaite, C. W. and Mather, J. R., 1957, Instructions and Tables for

Computing Potential Evapotranspiration and the Water Balance: Drexel Institute of Technology, Laboratory of Climatology, Volume x, Number 3

Map of Watson Property (PLUS 2006-09-08) Excellent ground-water recharge potential areas are highlighted in green. Wellhead protection areas are in red. Groundwater management areas are labeled.



Water Supply

The project information sheets state that individual on-site wells will be used to provide water for the proposed project. Records indicate that the project is not located in an area where public water service is available. The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be constructed and located in compliance with all requirements of the Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing any wells.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-3665.

Sediment and Erosion Control/Stormwater Management

Standard Comments:

A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. The plan review and approval as well as construction inspection will be coordinated through the Sussex Conservation District. Contact Jessica Watson, Program Manager, at (302) 856-7219 for details regarding submittal requirements and fees.

It is strongly recommended that you contact the Sussex Conservation District to schedule a pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion.

A Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity must be submitted to the Division of Soil and Water Conservation along with the \$195 NOI fee prior to plan approval.

Applying practices to mimic the pre-development hydrology on the site, promote recharge, maximize the use of existing natural features on the site, and limit the reliance on structural stormwater components, such as maintaining open spaces, should be considered in the overall design of the project as a stormwater management technique.

Each stormwater management facility should have an adequate outlet for release of stormwater. Any drainage conveyed onto this site from neighboring properties must be adequately conveyed through the site to the discharge point without interruption.

Clearly address how Stormwater Quality and Quantity Treatment will be provided. If this project is eligible for a Quantity Waiver, please make the request in the stormwater narrative citing the specific regulation.

Please indicate on the sediment and stormwater management plan who shall be responsible for maintenance of the stormwater management facilities both during construction and after. During the design of the sediment control and stormwater management plan, considerations should be made for maintenance (i.e. access, easements, etc.) of any structures or facilities.

If a stormwater management pond is going to be utilized as a sediment trap/basin during construction it must be designed to accommodate 3600 cubic feet of storage per acre of contributing drainage area until project stabilization is complete.

All ponds are required to be constructed per Pond Code 378.

Please note that if the stormwater facilities will impact wetlands, a permit must be provided to the District prior to receiving approval. Please address.

Site-Specific Comments:

- A Certified Construction Reviewer (CCR) is required for this project.
- The District will require a phased plan and sequence of construction for this project. DNREC regulations require no more than 20 acres to be disturbed at more time. Please address.
- Please demonstrate that both proposed basins have adequate outfalls. If the stormwater pond along Fleatown and Clendaniel Roads discharges to DelDOT's right of way provide the District with an approval letter from that agency accepting the water into their storm drain system.
- Under the DNREC Health and Safety Memo of 2000, all wet ponds are required to have an open space depth of 3 feet or more that comprises 50-75 percent of the area of the pond.
- Consideration should be made for any adjacent properties during the design of this project, including drainage and erosion/sediment control.
- Please provide a soil survey report for each SWM basin.

- Please incorporate “Green Technology BMPs” in the stormwater management design as stated in the section 10.3.5.1 of the regulations. The District recommends green
- technology practices such as bioswales between the rear lots to provide drainage and water quality.
- Please provide SCD with a copy of the AutoCAD drawings and HydroCAD files to expedite the review process.

Floodplains

This subdivision doesn't appear to be proposing any lots in a Special Flood Hazard Area. If the Special Flood Hazard Area is subdivided, in accordance with FEMA and Sussex County's floodplain ordinance, any subdivision greater than 5 acres or 50 lots in a Zone A floodplain must develop a Base Flood Elevation as part of their proposal. We would request that a copy of that study be sent to Greg Williams, Division of Soil and Water Conservation, as well as to Sussex County.

Rare Species

According to GIS database and aerial photographs, there is a high probability that this site contains the Federally-Threatened plant, swamp pink (*Helonias bullata*). DNREC has confirmed the presence of this species on the other side of the creek and similar habitat exists on the project side of the creek as well. This species typically occurs in Atlantic white cedar and maple/gum swamps in the Coastal Plain and appears to be very sensitive to sedimentation. Forested buffer widths of at least 300 feet are needed to protect this rare plant. Please contact our program botanist, Bill McAvoy at (302) 653-2880 to determine if this plant occurs within your project area. Bill can also make recommendations for avoiding impacts.

Forest Preservation

The applicant may want to recalculate forest loss as it seems to be underestimated. There are numerous lots (at least 7), a cul-de-sac, and a stormwater management pond within the forested area. Additional clearing is likely as homeowners clear for sheds, play areas, pools, etc. Efforts to reduce forest loss could be made by omitting lots that are within the forest (especially Lot #'s 16-25) and a stormwater management pond. When forested areas are cleared, wildlife must either co-exist with the new residents or disperse into the surrounding area. Either way this often results in human/animal conflicts, including interactions on the roadways.

Nuisance Waterfowl

Stormwater management ponds may attract waterfowl like resident Canada geese and mute swans that will create a nuisance for community residents. High concentrations of waterfowl in ponds create water-quality problems, leave droppings on lawn and paved areas and can become aggressive during the nesting season. Short manicured lawns around ponds provide an attractive habitat for these species. However, native plantings, including tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area (at least 50 feet) around ponds, are not as attractive to geese because they do not feel safe from predators and other disturbance when their view of the area is blocked. These plantings should be completed as soon as possible as it is easier to deter geese when there are only a few than it is to remove them once they become plentiful. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the home-owners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife professionals). Solutions can be costly and labor intensive; however, with proper landscaping, monitoring, and other techniques, geese problems can be minimized.

State Resource Areas/Natural Areas

The forested lands to the south are considered to be a part of the Cedar Creek Natural Area and are a State Resource Area.

Natural Areas involve areas of land or water, or of both land and water, whether in public or private ownership, which either retains or has reestablished its natural character (although it need not be undisturbed), or has unusual flora or fauna, or has biotic, geological, scenic or archaeological features of scientific or educational value.

State Resource Area lands include any open lands characterized by great natural scenic beauty, or whose existing openness, natural condition or present state of use, if retained, would maintain important recreational areas and wildlife habitat, and enhance the present or potential value of abutting or surrounding urban development, or would maintain or enhance the conservation of natural or scenic resources, including environmentally sensitive areas.

With this in mind, the Office of Nature Preserves urges the applicant to remove lots 17 through 27 and 35 through 38 from the Natural Area to maintain the integrity of the Natural Area/State Resource Area. This can be done either through reducing lot sizes or reducing density overall.

Solid Waste

Each Delaware household generates approximately 3,600 pounds of solid waste per year. On average, each new house constructed generates an additional 10,000 pounds of construction waste. Due to Delaware's present rate of growth and the impact that growth will have on the state's existing landfill capacity, the applicant is requested to be aware of the impact this project will have on the State's limited landfill resources and, to the extent possible, take steps to minimize the amount of construction waste associated with this development.

Air Quality

Once complete, vehicle emissions associated with this project are estimated to be 4.1 tons (8,134.9 pounds) per year of VOC (volatile organic compounds), 3.4 tons (6,735.2 pounds) per year of NO_x (nitrogen oxides), 2.5 tons (4,969.3 pounds) per year of SO₂ (sulfur dioxide), 0.2 ton (442.4 pounds) per year of fine particulates and 340.2 tons (680,477.9 pounds) per year of CO₂ (carbon dioxide).

However, because this project is in a level 4 area, mobile emission calculations should be increased by 118 pounds for VOC emissions for each mile outside the designated growth areas per household unit; by 154 pounds for NO_x; and by 2 pounds for particulate emissions. A typical development of 100 units that is planned 10 miles outside the growth areas will have additional 59 tons per year of VOC emissions, 77 tons per year of NO_x emissions and 1 ton per year of particulate emissions versus the same development built in a growth area (level 1,2 or 3).

Emissions from area sources associated with this project are estimated to be 1.6 tons (3,281.2 pounds) per year of VOC (volatile organic compounds), 0.2 ton (361.0 pounds) per year of NO_x (nitrogen oxides), 0.1 ton (299.6 pounds) per year of SO₂ (sulfur dioxide), 0.2 ton (386.6 pounds) per year of fine particulates and 6.7 tons (13,301.2 pounds) per year of CO₂ (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 0.7 tons (1,300.4 pounds) per year of NO_x (nitrogen oxides), 2.3 tons (4,523.2 pounds) per year of SO₂ (sulfur dioxide) and 333.6 tons (667,176.7 pounds) per year of CO₂ (carbon dioxide).

	VOC	NO _x	SO ₂	PM _{2.5}	CO ₂
Mobile	4.1	3.4	2.5	0.2	340.2
Residential	1.6	0.2	0.1	0.2	6.7

Electrical Power		0.7	2.3		333.6
TOTAL	5.7	4.3	4.9	0.4	680.5

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 0.7 tons of nitrogen oxides per year and 2.3 tons of sulfur dioxide per year.

A significant method to mitigate this impact would be to require the builder to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. Quoting from their webpage, <http://www.energystar.gov/>:

“ENERGY STAR qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous. These savings are based on heating, cooling, and hot water energy use and are typically achieved through a combination of:

building envelope upgrades,
high performance windows,
controlled air infiltration,
upgraded heating and air conditioning systems,
tight duct systems and
upgraded water-heating equipment.”

The Energy office in DNREC is in the process of training builders in making their structures more energy efficient. The Energy Star Program is excellent way to save on energy costs and reduce air pollution. They highly recommend this project development and other residential proposals increase the energy efficiency of their homes.

They also recommend that the home builders offer geothermal and photo voltaic energy options. Applicable vehicles should use retrofitted diesel engines during construction. The development should provide tie-ins to the nearest bike paths, links to mass transit, and fund a lawnmower exchange program for their new occupants.

State Fire Marshal's Office – Contact: Duane Fox 856-5298

These comments are intended for informational use only and do not constitute any type of approval from the Delaware State Fire Marshal's Office. At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

a. **Fire Protection Water Requirements:**

- Since the dwellings of the subdivision are proposed to be served by individual on-site wells (No Central or Public Water System within 1000' of property), set back and separation requirements will apply.

b. **Accessibility:**

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from Fleatown Road must be constructed so fire department apparatus may negotiate it.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

c. **Gas Piping and System Information:**

- Provide type of fuel proposed, and show locations of bulk containers on plan.

d. Required Notes:

- Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
- Proposed Use
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Provide Road Names, even for County Roads

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: www.delawarestatefiremarshal.com, technical services link, plan review, applications or brochures.

Department of Agriculture - Contact: Scott Blaier 698-4500

The proposed development is in an area designated as Investment Level 4 under the *Strategies for State Policies and Spending*. The *Strategies* do not support this type of isolated development in this area. The intent of this plan is to preserve the agricultural lands, forestlands, recreational uses, and open spaces that are preferred uses in Level 4 areas. The Department of Agriculture opposes development which conflicts with the preferred land uses, making it more difficult for agriculture and forestry to succeed, and increases the cost to the public for services and facilities.

More importantly, the Department of Agriculture opposes this project because it negatively impacts those land uses that are the backbone of Delaware’s resource industries - agriculture, forestry, horticulture - and the related industries they support. Often new residents of developments like this one, with little understanding or appreciation for modern agriculture and forestry, find their own lifestyles in direct conflict with the demands of these industries. Often these conflicts result in compromised health and safety; one example being decreased highway safety with farm equipment and cars competing on rural roads. The crucial economic, environmental and open space benefits of agriculture and forestry are compromised by such development. We oppose the creation of isolated development areas that are inefficient in terms of the full range of public facilities and services funded with public dollars. Public investments in areas such as this are best directed to agricultural and forestry preservation.

A portion of this property has been designated as having “excellent” ground-water recharge potential. DNREC has mapped all ground-water recharge-potential recharge areas for the state, and an “excellent” rating designates an area as having important groundwater recharge qualities.

Senate Bill 119, enacted by the 141st General Assembly in June of 2001, requires the counties and municipalities with over 2,000 people to adopt as part of the update and implementation of their 2007 comprehensive land use plans, areas delineating excellent ground-water recharge potential areas. Furthermore, the counties and municipalities are required to adopt regulations by December 31, 2007 governing land uses within those areas to preserve ground-water quality and quantity.

Maintaining pervious cover in excellent and good recharge areas is crucial for the overall environmental health of our state and extremely important to efforts which ensure a safe drinking water supply for future generations. Retention of pervious cover to ensure an adequate future water supply is also important for the future viability of agriculture in the First State. The loss of every acre of land designated as “excellent” and “good” recharge areas adversely impacts the future prospects for agriculture in Delaware. The developer should make every effort to protect and maintain valuable ground-water recharge potential areas.

The Delaware Department of Agriculture supports growth which expands and builds on existing urban areas and growth zones in approved State, county and local plans. Where additional land preservation can occur through the use of transfer of development rights, and other land use measures, we will support these efforts and work with developers to implement these measures. If this project is approved we will work with the developers to minimize impacts to the agricultural and forestry industries.

Right Tree for the Right Place

The Delaware Department of Agriculture Forest Service encourages the developer to use the “Right Tree for the Right Place” for any design considerations. This concept allows for the proper placement of trees to increase property values in upwards of 25% of appraised value and will reduce heating and cooling costs on average by 20 to 35 dollars per month. In addition, a landscape design that encompasses this approach will avoid future maintenance cost to the property owner and ensure a lasting forest resource.

Native Landscapes

The Delaware Department of Agriculture and the Delaware Forest Service encourages the developer to use native trees and shrubs to buffer the property from the adjacent land-use activities near this site. A properly designed forested buffer can create wildlife habitat corridors and improve air quality to the area by removing six to eight tons of carbon dioxide annually and will clean our rivers and creeks of storm-water run-off pollutants. To learn more about acceptable native trees and how to avoid plants considered invasive

to our local landscapes, please contact the Delaware Department of Agriculture Plant Industry Section at (302) 698-4500.

Tree Mitigation

The Delaware Forest Service encourages the developer to implement a tree mitigation program to replace trees at a 1:1 ratio within the site and throughout the community. This will help to meet the community's forestry goals and objectives and reduce the environmental impacts to the surrounding natural resources. To learn more, please contact our offices at (302) 349-5754.

Public Service Commission - Contact: Andrea Maucher 739-4247

Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines. Contact: Malak Michael at (302) 739-4247.

Delaware State Housing Authority – Contact Karen Horton 739-4263

The proposal is a site plan review for 53 units on 64 acres located on the Southeast Corner of Fleatown Road and Clendaniel Road near Ellendale. According to the *State Strategies Map*, the proposal is located in an Investment Level 4 area. As a general planning practice, DSHA encourages residential development only in areas where residents will have proximity to services, markets, and employment opportunities, such as Investment Level 1 and 2 areas outlined in the State Strategies Map. Since the proposal is located in an area targeted for agricultural and natural resource protection, and therefore inconsistent with where the State would like to see new residential development, DSHA does not support this proposal.

Department of Education – Contact: John Marinucci 739-4658

1. DOE recognizes that this development project is in level 4 of the State Strategies for Policies and Spending and as such, DOE does not support the approval of this project.
2. This proposed development is within the Milford School District
3. DOE offers the following comments on behalf of the Milford School District.
4. Using the DOE standard formula, this development will generate an estimated 26 students.
5. DOE records indicate that the Milford School Districts' *elementary schools are at or beyond 100% of current capacity* based on September 30, 2005 elementary enrollment.

6. DOE records indicate that the Milford School Districts' *secondary schools are **not at or beyond 100% of current capacity*** based on September 30, 2005 secondary enrollment.
7. The Milford School District has communicated to the DOE the district's lack of capacity at all grade levels given the number of planned and recorded residential sub divisions within district boundaries.
8. This development will create additional elementary and secondary student population growth which will further compound the existing shortage of space. The developer is strongly encouraged to contact the Milford School District Administration to address the issue of school over-crowding that this development will exacerbate.
9. DOE requests developer work with the Milford School District transportation department to establish developer supplied bus stop shelter ROW and shelter structures, interspersed throughout the development as determined and recommended by the local school district.
10. It must be noted that this development is extremely close to the Milford/Cape Henlopen boundary line. The Milford/Cape Henlopen boundary is approximately .56 miles from the corner of Clendaniel Pond Road and Flea Town Road traveling north easterly on Flea Town Road toward Cubage Pond Road.

Sussex County – Contact: Richard Kautz 855-7878

The developer should relocate the stormwater management pond located along the property frontage to an interior, less visible location.

Due to the probable existence of excellent recharge on the site, the developer should prohibit the discharge of roof drains to impervious surfaces; require the segregation and treatment of roof run-off from mechanical system prior to discharge to the recharge area, and use best management practices to ensure that land uses and activities are conducted in such a way as to minimize the impact on, and reduce the risk of contamination to, excellent recharge areas.

The open space contiguous to Lot 27 should be eliminated. It serves no useful purpose and will end up be a maintenance issue.

The Sussex County Engineer Comments:

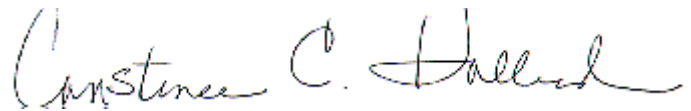
Individual on-site wastewater systems are proposed to serve the residential subdivision. The proposed project is in the North Coastal Planning Area, but is not in an area where Sussex County expects to provide sewer service. Sussex County has no objection to the project being served by individual on-site systems.

For questions regarding these comments, contact Rob Davis, Sussex County Engineering Department at (302) 855-7719.

Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.

Thank you for the opportunity to review this project. If you have any questions, please contact me at 302-739-3090.

Sincerely,

A handwritten signature in blue ink that reads "Constance C. Holland". The signature is fluid and cursive, with the first name "Constance" being more prominent.

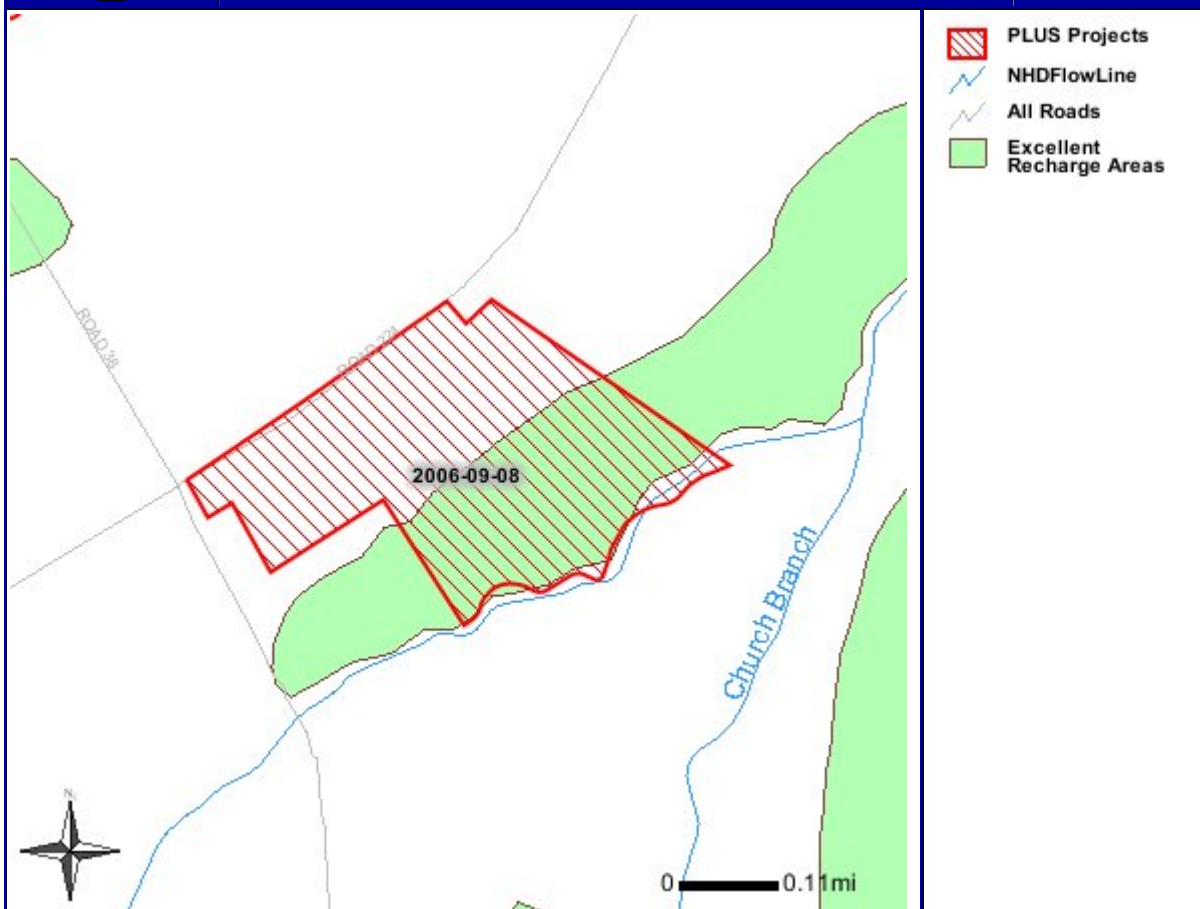
Constance C. Holland, AICP
Director

CC: Sussex County



Watson Property

2006-09-08



This map was produced by the Delaware Department of Natural Resources and Environmental Control.

